

Belimo P1013 US
Application SN 10/596,263
Applicant Frank LEHNERT

(3) Remarks

Reconsideration and allowance of claims 1-16 and 20-25, and allowance of new claim 26, are respectfully requested in light of the following amendments and remarks.

New claim 26 has been added to present the allowable subject matter of claim 4 in independent form.

The amendments to claim 1 are made to clarify the structural distinctions between the present invention as shown and described and the very different structure shown in the newly-cited Hightower reference. In particular, claim 1 has been amended to clarify that "the one or more air flaps are rotational about an axis of the drive axle" and "said rotatable connection is at a distance from said drive axle and parallel to said drive axle" as are both illustrated in Fig. 1.

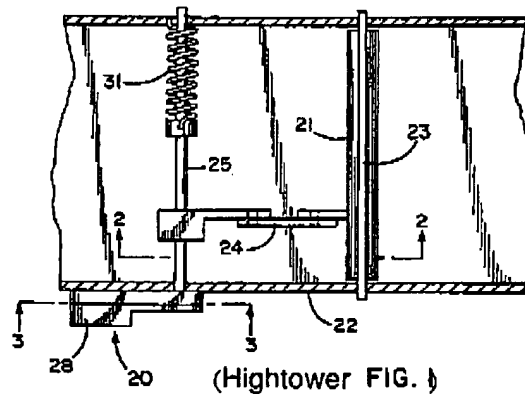
Claim Rejections – 35 USC §102

Claims 1-3, 5, 9-12, and 20-24 have been rejected under 35 U.S.C. 102(b) as being anticipated by Hightower (5,310,021).

The rejection paraphrases the claimed language and asserts that various portions of the Hightower reference as showing the claimed features. Applicant believes that this presentation is made, not from the standpoint of how one of ordinary skill in the art would read the reference, but with a hindsight view that actually alters the clear claim language in a way that is beyond its reasonably broadest interpretation. This rejection is respectfully traversed.

In Hightower Fig. 1 (below), an air flap 21 is shown that is rotatable about an axle 23. A toggle linkage with several joints ("bolts") is arranged between the drive axle 25 and an end of the air flap 21. An actuator 20 rotates the drive axle 25 and a force is transmitted to the end of the air flap 21 by the toggle linkage. These differences are clear from a comparison of Fig. 1 of the present application with Figs 1 and 2 of Hightower.

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The invention, on the other hand, relates to a device for controlling the air flow in a ventilating pipe with one or more air flaps which can be actuated synchronously and which prevent the air flow in the pipe in the closed position. The invention provides a fastening web that can extend across the entire cross section of the ventilating pipe. This structure, which permits even diagonal orientation, makes it possible that the same fastening web can be used for different pipe dimensions by just attaching appropriate air flaps. In addition, the present invention as shown and described employs one or more air flaps rotational about an axis of the drive axle and the rotatable connection of the fastening web to the ventilation pipe is positioned at a distance from said drive axle and parallel to said drive axle. These differences are clear from a comparison of Fig. 1 of the present application with Fig. 2 of Hightower.

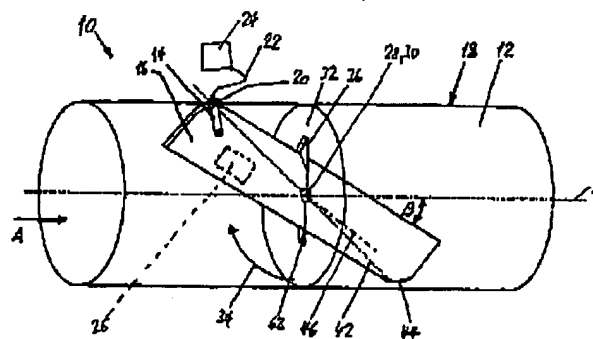
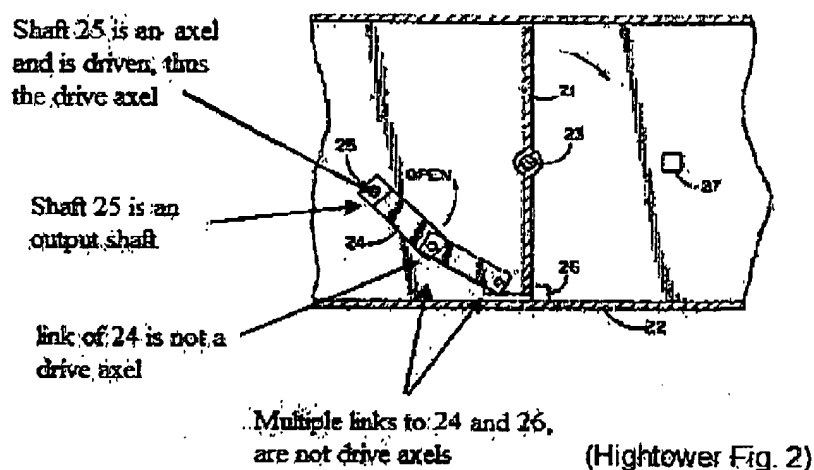


Fig. 1 (Invention)

The office action does not clearly and consistently identify which of the axles or joints disclosed in US 5,310,021 is meant to correspond to the drive axle of the invention. Generally speaking, there are a

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number of different axles in the mechanism of Hightower. In the following annotated version of Hightower's Fig. 2, there can be seen several different interpretations relating to the term axle. It is believed that this graphic view shows that the interpretation of the term "drive axle" as set out in the Office Action is not consistent with what one of ordinary skill in the art would find consistent with the broadest reasonable interpretation of the term.



To further elaborate on this, applicant notes that in numbered paragraph 1 of the office action, the Examiner states that "each of the air flaps is rigidly connected to a drive axle (link 24)". However, the "link 24" is not an axle. It seems that the examiner indicates that "link 24" forms a connection between the air flap and the drive axle. Hence, on one side of the "link 24" the drive axle is arranged, which must correspond to shaft 25, and on the other side the air flaps are arranged, which obviously correspond to numeral 21.

Shaft 25 is a drive axle, because shaft 25 is directly rotated by an actuator.

Then, in the next sentence, the Examiner refers to "a fastening web (24) with a pivot bearing (middle bearing connecting two links) for the drive axle". Hence, the examiner refers to the bolt (or pin) between the two arms of the link 24 as drive axle. This is not consistent with the first noted reference to axle, and this inconsistency argues against the examiner's reference to the "link of 24" as being the presently claimed "drive shaft" within the broadest reasonable interpretation of that term.

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Yet further, in at a third point in this same paragraph, the Examiner states that "means (20, 25, 31) for transmitting force and/or torque to the drive axle" are arranged. As can be seen in Fig. 1, the means (20, 25, 31) are connected to the pipe on the one hand, and are connected to the toggle linkage 24 on the other hand. The pipe does not correspond to an axle. However, the toggle linkage 24 is connected to several axles, which may be "receive force and/or torque of the means (20, 25, 31)". Calling either the axle of the middle bearing of link 24, or the axle of link 24 connected to 21, or shaft 23 "a drive axle" is not consistent with the other interpretations given this term in interpreting the claim. Accordingly, this also argues against the examiner's reference to the "link of 24" as being the presently claimed "drive shaft" within the broadest reasonable interpretation of that term.

Accordingly, none of the rejected claims is anticipated by the Hightower reference.

However, claim 1 has been amended to even more strongly argue against such interpretations of the claims.

Claim 1 now specifically recites that "the one or more air flaps are rotational about an axis of the drive axel" and "said rotatable connection is at a distance from said drive axle and parallel to said drive axel". Both of these are illustrated in Fig. 1 of the present application and no reasonable interpretation of the claim language could be found to be anticipated by Hightower. The amendments to claim 1 unequivocally clarify the structural distinctions between the present invention as shown and described and the very different structure shown in the newly-cited Hightower reference.

While claims 1-3, 5, 9-12, and 20-24 are not rejected for obviousness under 35 U.S.C. §103, applicant notes that there is no basis for any rejection on this basis. The following discussion of nonobviousness will take into account the various, inconsistent meanings attributed to the "drive axle".

According to amended claim 1, it is clarified that the air flaps are rigidly connected to the drive axle, wherein a fastening web has a pivot bearing for the drive axle, wherein the air flaps are rotational about an axis of the drive axle. This is clearly disclosed in Fig. 1 and Fig. 2.

One of the most prominent differences between the invention according to claim 1 and Hightower is the fact, that according to the invention a single axle is provided, which is arranged to fix and rotate the air flaps in a pivot bearing of a fastening web for the drive axle. According to Hightower, a first axle is provided in order to hold the air flaps rotational about the drive axle and a second axle is provided for receiving a rotational force and for transmitting this force linearly onto an end of the air flap. When starting from Hightower, the skilled person would therefore not be able to arrive to the invention.

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In the interpretation of the Office Action that shaft 25 would correspond to the drive axel, applicant notes that the air flaps of Hightower are not rigidly connected to the drive axle, because toggle linkage 24 does not form a rigid connection.

In the interpretation of the Office Action that the axle of middle bearing of link 24 corresponds to drive axle, applicant notes that the connection between the axle of middle bearing of link 24 to the air flaps is not a rigid connection.

In the interpretation of the Office Action that axle of link 24 connected to 21 corresponds to drive axle, applicant notes that contrary to amended claim 1 as suggested below, the one or more air flaps are not rotatable about an axis of the drive axle.

In the interpretation of the Office Action that shaft 23 corresponds to drive axle, as the air flaps are not rigidly connected to shaft 23, there is again no rigid connection between the air flaps and the drive axle.

Other points of novelty and nonobviousness

Claim 2 "angle β ": is new

In Hightower, a fastening web can be identified, which is fixed inside the ventilating pipe at an angle β of 15° to 90° , wherein said angle β of the fastening web is defined relative to a longitudinal axis of the ventilating pipe or relative to a wall of the ventilating pipe and said angle β is dependent on the diameter of the ventilating pipe.

However, the fastening web according to Hightower does not have the same features as the fastening web defined by claim 1 of the invention and therefore cannot be compared with the invention.

Claim 3 "fastening web pivotable in plane of symmetry": is new

Hightower does not disclose that the fastening web and the gearing means for transmitting force and/or torque are arranged on a longitudinally extending plane of symmetry of the pipe. Accordingly, the fastening web is not fastened so as to be pivotable in said specific plane of symmetry.

In order to better mark off the invention according to claim 3, the plane of symmetry may have to be defined more precisely.

Claim 5 "fastening web detachably fastened at ends to inside of pipe wall": is new

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Hightower does not disclose that the fastening web is fastened at both ends to the inside of the pipe wall. According to the features identified by the examiner, the fastening web is fastened to the air flaps and to the drive axle.

Claim 7 "actuator acting on drive axle by way of reducing gear": is new

In Hightower, an actuator acting on a drive axle by way of reducing gear can be identified. However, the actuator according to Hightower does not act on a drive axle comparable to the invention, namely to a drive axle arranged to fix and rotate air flaps.

Claim 9 "fastening web with rounded edges": is new

The examiner argues that the fastening web has rounded edges at 25. However, the reference sign 25 refers to the shaft. The fastening web as identified by the examiner, namely the link 24, does not have rounded edges.

Claim 10 "fastening point provided on drive axle on side of fastening web": is new

Hightower does not disclose that a fastening point is provided, in each case, on the drive axle on either side of the fastening web for the one or more air flaps. The air flap of Hightower is fastened to the drive axle through the fastening web. A fastening point on the drive axle for the air flaps is not disclosed.

Claim 12 "air flaps blade-shaped foldable over parallel to drive axle": is new

Hightower does not disclose that the air flaps can be folded over parallel to the drive axle. The air flaps according to Hightower are not foldable at all.

Claim 20 "bearing at distance to fastening web holder": is new

In Hightower, a bearing at a distance to a fastening web holder can be identified. However, it is not possible to identify air flaps rigidly connected to a drive axle, wherein a pivot bearing of a fastening web for the drive axle is provided. Therefore the fastening web according to the invention is completely different to the fastening web identifiable in Hightower. Hence, a bearing at a distance to the fastening web holder according to the invention is not disclosed.

Claim 21 "fastening web is elongated, bar shaped, stiff element": is new

The fastening web according to Hightower (toggle linkage 24 between damper 21 and shaft 25, col. 2, l. 33-35) has several elements movably connected to each other and is not an elongated, stiff bar.

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Claim 23 "locking rotatable connection between holder and fastening web": is new

The stop 26, 27 according to Hightower provide means for stopping rotation of the air flaps when fully closed or fully open. However, locking means for locking a rotatable connection between two devices are not disclosed.

Claim 24 "fastening web": is new

Claim 24 is patentable for the same reasons as claim 1.

For all of these distinctions and reasons, there remains no basis for a finding of obviousness.

Claim Rejections – 35 USC §103

Claims 15-16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hightower (5,310,021) in view of McCabe (2001/0055947).

This rejection is respectfully traversed for all of the reasons above relating to claim interpretation in view of Hightower, and because there is no reason why the person skilled in the art would make the combinations proposed in the Office Action. And, even if the combinations were made they would still fail to teach the invention with all of its elements as set forth in the claims.

The Supreme Court recently stated that "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The Office Action offers the following reasoning for the rejection: "it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the air damper of HIGHTOWER in view of two air flaps of MCCABE in order to have more precise control of the air flow admitted making the damper more effic[i]ent". Because the Examiner has failed to provide any sound reasons, explanations, motivations, or suggestions for modifying the cited references to arrive at the claimed invention, other than proffering most-general and unarticulated conclusion that the combination would be improved, the rejection does not establish a *prima facie* case of obviousness. In support of this see *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval in *KSR*, 550 U.S. at 418, stated that "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

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In this case, the Office Action does not articulate reasons, found in the references themselves or based on a logical presentation of facts, as to how the structures would be combined to make the result more efficient. At least some of the details of the combination would have to be known for a person skilled in the art to have a reasonable assurance that the combination would work successfully, much less provide an improvement of the type that would provide motivation for the combination in the first place.

Applicant notes that it is incumbent on the Patent Office, in the first instance, to make out a *prima facie* case of obviousness to reject claims under 35 U.S.C. §103. *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002); *cf. In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984). A *prima facie* case is defined generally as: "Evidence good and sufficient on its face; such evidence as, in the judgment of the law, is sufficient to establish a given fact, or the group or chain of facts constituting the party's claim or defense, and which if not rebutted or contradicted is sufficient to sustain a judgment in favor of there is no evidence suggesting a different reading. Because there is no support in the reference for a different reading and the examiner has offered no logical reason why the clear language of the reference should be read differently, the language of the reference must be accepted. *In re Wright*, 9 USPQ2d, 1649 (Fed. Cir. 1989) (It is not proper to take statements in the prior art out of context and give them meanings they would not have had to one of ordinary skill in the art.); *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992) ("...the examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability.") Because the reference has been read for other than its clear meaning as would have been given it by one skilled in the art, the Office Action fails to meet the initial burden for rejecting the claims. Moreover, the Office Action fails to specifically address appellants' reasoning as to why the reference teachings do not teach the limitation. In effect, the Office Action improperly reads the claims without the limitation on low total fat, constituting reversible error. *In re Geerdes*, 491 F.2d 1260, 1262, 180 USPO 789, 791 (CCPA 1974) ("every limitation in the claim must be given effect rather than considering one in isolation from the others").

In the present case, the terminology utilized by the Office Action as applied to the claims has both been taken out of context and used in several inconsistent ways beyond the broadest reasonable. Indeed, the differing uses of the same reference words shows that the language has been given more than the broadest possible interpretation constituent with the original meaning of the references. See the particulars on interpretation of "drive shaft", above.

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The failure of the Office Action to provide adequate supportive reasoning is, in itself, reason why the next office action, if any, cannot be properly made final as applicant has not been properly apprised of the reasons for the rejection as required by 35 U.S.C. §132.

In addition, applicant points out that there are several other points of novelty and unobviousness of the invention as claimed over the reference teachings.

Claim 15 "monitor displays flap position": is new

McCabe teaches a sensor 142 for detecting smoke or fire, a radio transmitter 150 and a receiver 152 in order to notify the power actuator to close the damper 110 (0081). However, monitoring the flap position is not disclosed.

Claim 16 "measuring differential pressure etc": is new

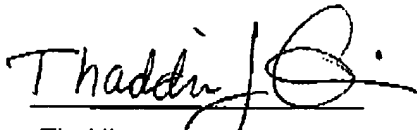
Elements 142, 150, 152 of McCabe relate to detecting smoke or fire in order to close the damper. However, measuring pressure, volume flow or position of air flap is not disclosed.

Claim 25 "system adaptable to differently dimensioned pipes": is new

At least two different air flaps having various dimensions are not disclosed. In McCabe, 116 relates to damper blades having the same dimensions (Fig. 13). Fig. 8 and Fig. 7 imply a single ventilation pipe of only one dimension.

Applicant has endeavored to place the application in condition for allowance, and early and favorable action is believed in order and is earnestly solicited. Applicant specifically requests the opportunity to discuss this application with the examiner at an interview at the Patent Office. And, if for any reason the examiner sees need for formal changes, he is invited to call the undersigned.

Respectfully submitted,


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